



SYSTEM PROVISIONING AND CONFIGURATION MANAGEMENT

LAB FILE

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EXPERIMENT 10:

Creating an AWS RDS Instance in Terraform

1. Create a file named main.tf
2. Enter the proper configuration for your RDS instance

```
main.tf > ...
1  terraform {
2      required_providers {
3          aws = {
4              source = "hashicorp/aws"
5              version = "5.32.1"
6          }
7      }
8  }
9
10 provider "aws" {
11     region = "ap-south-1"
12     access_key = "AKIAZW6RGWG6LAEHJZY3"
13     secret_key = "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"
14 }
15
16 resource "aws_db_instance" "default" {
17     allocated_storage = 10
18     db_name            = "mydb"
19     engine             = "mysql"
20     engine_version     = "5.7.44"
21     instance_class     = "db.t2.micro"
22     username           = "smriti"
23     password           = "smriti123"
24     parameter_group_name = "default.mysql5.7"
25     skip_final_snapshot = true
26     identifier         = "lab-10-db"
27     publicly_accessible = true
28 }
```

3. Initialize using terraform init command

```
D:\docss\UPES\sem 6\SPCM Lab\lab 10>terraform init

Initializing the backend...

Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v5.32.1

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
```

4. Apply the changes through terraform apply command.

```
D:\docss\UPES\sem 6\SPCM Lab\lab 10>terraform init

Initializing the backend...

Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v5.32.1

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.

D:\docss\UPES\sem 6\SPCM Lab\lab 10>terraform apply
aws_db_instance.default: Refreshing state... [id=db-KITTB7COWMBISC5VZSQ3VBPPDA]

Terraform used the selected providers to generate the following execution
plan. Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

# aws_db_instance.default will be created
+ resource "aws_db_instance" "default" {
  + address                = (known after apply)
  + allocated_storage      = 10
  + apply_immediately      = false
  + arn                    = (known after apply)
  + auto_minor_version_upgrade = true
```

```

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

Enter a value: yes

aws_db_instance.default: Creating...
aws_db_instance.default: Still creating... [10s elapsed]
aws_db_instance.default: Still creating... [20s elapsed]
aws_db_instance.default: Still creating... [30s elapsed]
aws_db_instance.default: Still creating... [40s elapsed]
aws_db_instance.default: Still creating... [50s elapsed]
aws_db_instance.default: Still creating... [1m0s elapsed]
aws_db_instance.default: Still creating... [1m10s elapsed]
aws_db_instance.default: Still creating... [1m20s elapsed]
aws_db_instance.default: Still creating... [1m30s elapsed]
aws_db_instance.default: Still creating... [1m40s elapsed]
aws_db_instance.default: Still creating... [1m50s elapsed]
aws_db_instance.default: Still creating... [2m0s elapsed]
aws_db_instance.default: Still creating... [2m10s elapsed]
aws_db_instance.default: Still creating... [2m20s elapsed]
aws_db_instance.default: Still creating... [2m30s elapsed]
aws_db_instance.default: Still creating... [2m40s elapsed]
aws_db_instance.default: Still creating... [2m50s elapsed]
aws_db_instance.default: Still creating... [3m1s elapsed]
aws_db_instance.default: Still creating... [3m11s elapsed]
aws_db_instance.default: Still creating... [3m21s elapsed]
aws_db_instance.default: Still creating... [3m31s elapsed]
aws_db_instance.default: Still creating... [3m41s elapsed]
aws_db_instance.default: Still creating... [3m51s elapsed]
aws_db_instance.default: Still creating... [4m1s elapsed]
aws_db_instance.default: Still creating... [4m11s elapsed]
aws_db_instance.default: Creation complete after 4m15s [id=db-2J5WXLVMAFRP6L
ILD2W3CNBCBI]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

D:\docss\UPES\sem 6\SPCM Lab\lab 10>

```

5. Verify your instance through the AWS console.

	DB identifier ▲	Status ▼	Role ▼	Engine ▼	Region & AZ ▼	Size ▼	Recommendations ▼	CPU
○	lab-10-db	Available	Instance	MySQL Community	ap-south-1c	db.t2.micro		-

6. Click on your instance and copy the endpoint

Connectivity & security

Endpoint & port

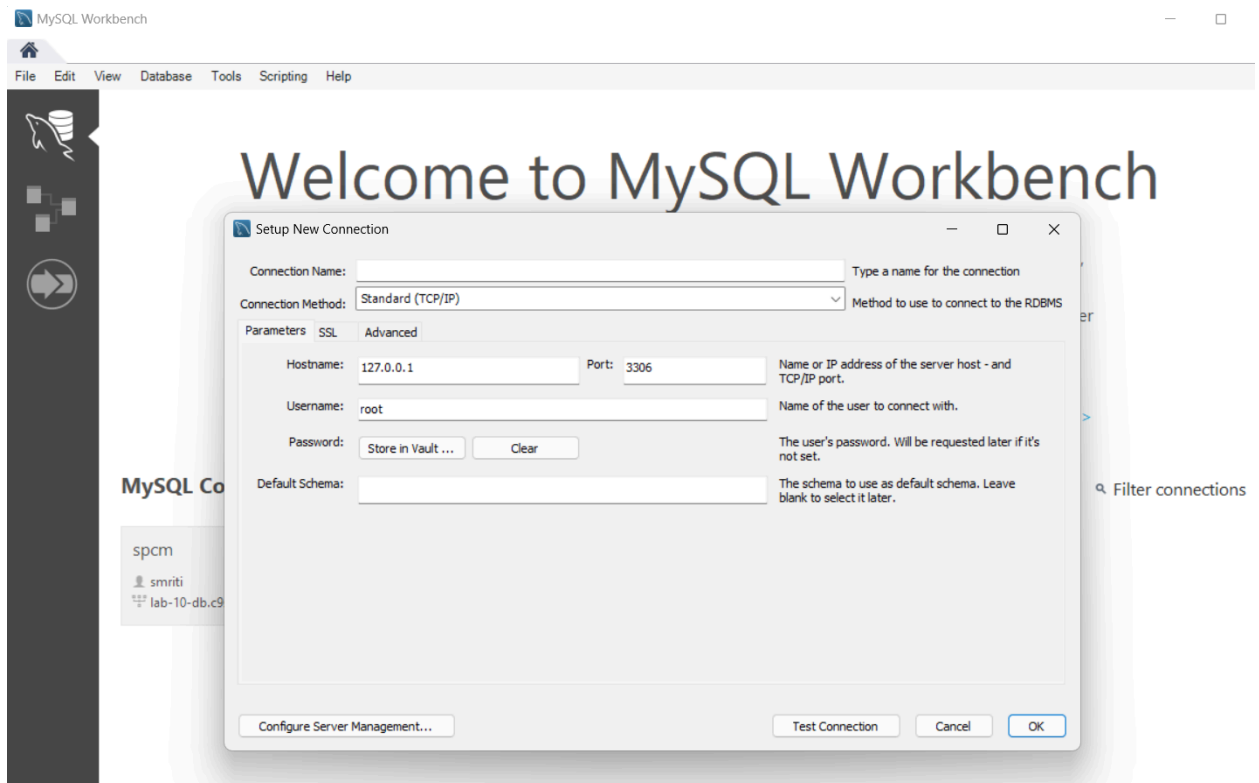
Endpoint

lab-10-db.c9s0kci82dmr.ap-south-1.rds.amazonaws.com

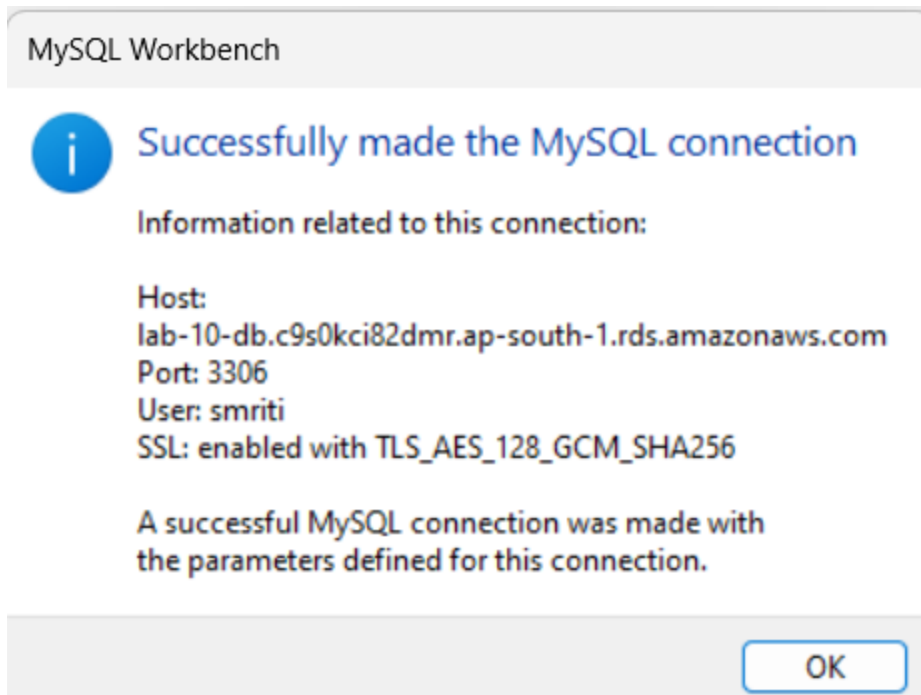
Port

3306

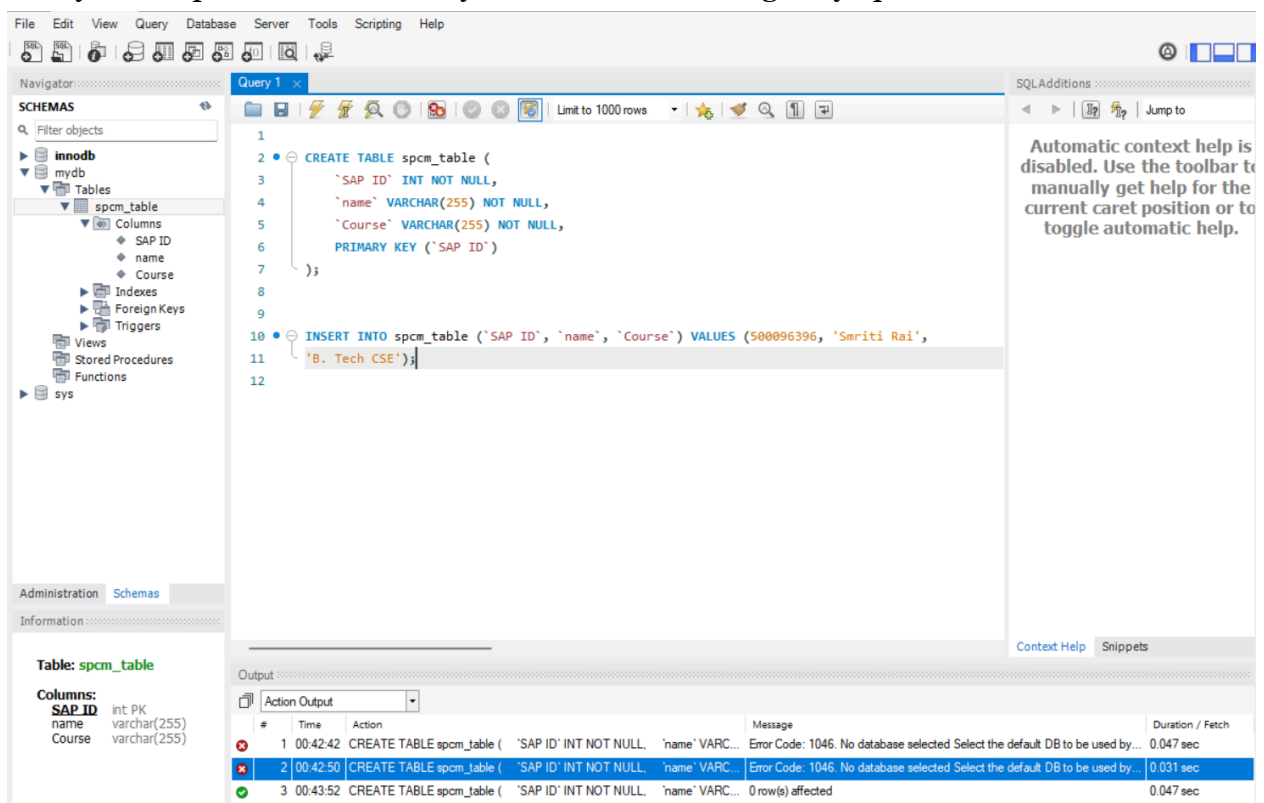
7. Open Mysql Workbench
8. Click on add new connection, fill the details and test the connection



9. Your connection will be established



10. Now you can perform actions in your AWS RDS through Mysql.



11. This table will disappear after you destroy the instance. Run terraform destroy.

```
D:\docss\UPES\sem 6\SPCM Lab\lab 10> terraform destroy
aws_db_instance.default: Refreshing state... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI]
```

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:

- destroy

Terraform will perform the following actions:

```
# aws_db_instance.default will be destroyed
- resource "aws_db_instance" "default" {
  - address                               = "lab-10-db.c9s0kci82dmr.ap-s
outh-1.rds.amazonaws.com" -> null
  - allocated_storage                     = 10 -> null
  - apply_immediately                     = false -> null
  - arn                                   = "arn:aws:rds:ap-south-1:6677
69287100:db:lab-10-db" -> null
  - auto_minor_version_upgrade           = true -> null
  - availability_zone                     = "ap-south-1b" -> null
  - backup_retention_period               = 0 -> null
  - backup_target                         = "region" -> null
  - backup_window                         = "19:56-20:26" -> null
  - ca_cert_identifier                   = "rds-ca-rsa2048-g1" -> null
  - copy_tags_to_snapshot                 = false -> null
  - customer_owned_ip_enabled             = false -> null
  - db_name                               = "mydb" -> null
  - db_subnet_group_name                  = "default" -> null
  - delete_automated_backups              = true -> null
  - deletion_protection                   = false -> null
  - enabled_cloudwatch_logs_exports       = [] -> null
  - endpoint                             = "lab-10-db.c9s0kci82dmr.ap-s
outh-1.rds.amazonaws.com:3306" -> null
  - engine                               = "mysql" -> null
  - engine_version                        = "8.0.36" -> null
  - engine_version_actual                  = "8.0.36" -> null
  - hosted_zone_id                        = "Z2VFMSZA74J7XZ" -> null
  - iam_database_authentication_enabled   = false -> null
```

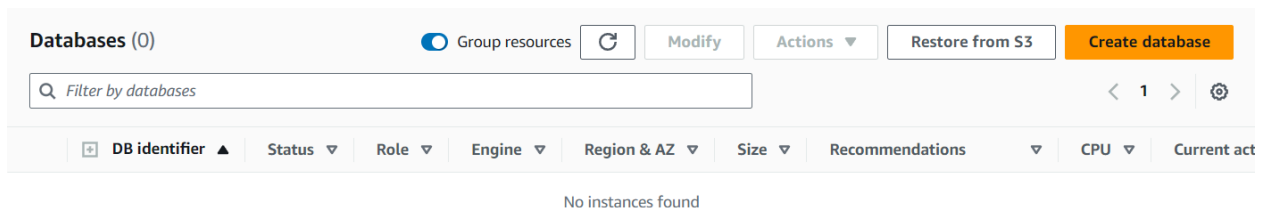
```

aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 1m20s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 1m30s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 1m40s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 1m50s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m0s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m10s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m20s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m30s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m40s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 2m50s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m0s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m10s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m20s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m30s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m40s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 3m50s elapsed]
aws_db_instance.default: Still destroying... [id=db-2J5WXLVMAFRP6LILD2W3CNBC
BI, 4m0s elapsed]
aws_db_instance.default: Destruction complete after 4m6s

Destroy complete! Resources: 1 destroyed.

```

12. Verify the destruction of your instance in the AWS console



13. The table has disappeared from Mysql.

Navigator

SCHEMAS



 Filter objects